



Prospects for the EU Emissions Trading System

SUMMARY *The current price of carbon emissions in the EU is too low to encourage investment in low-carbon infrastructure. The reasons for the price drop are an oversupply of emission allowances and weakened demand due to the economic crisis and complementary emissions-reducing policies.*

Several proposals have been made to bring the carbon price back to levels which incentivise 'clean' investments. Short-term supply can be reduced by delaying the auctioning of allowances. Longer-term solutions, such as reducing the total number of allowances or introducing a minimum price for auctions, require changes to the ETS Directive. If interventions are not backed up by a credible longer-term strategy, there is a risk of investors losing confidence in the carbon market.

Interventions in the carbon market are supported by the EP, environmental NGOs and some industry groups. Other industry groups and Poland fear that such interventions will damage competitiveness and cause companies to relocate energy-intensive production outside the EU. The European Commission is committed to presenting the first report on the carbon market and proposals for reform in summer 2012.

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Glossary

Greenhouse gas (GHG): Gas in the earth's atmosphere which traps heat and prevents it from escaping into space. An increase in GHG concentrations leads to a warming of the planet. The most common GHG is carbon dioxide (CO₂).

Carbon dioxide equivalent (CO₂e): The global warming potential of other GHGs is expressed in carbon dioxide equivalent (CO₂e).

Emission allowance: permit to emit a quantity of GHG. One EU Allowance (EUA) gives its owner the right to emit one tonne of CO₂e.

Cap: upper limit of the amount of allowed emissions which determines the number of emission allowances issued.

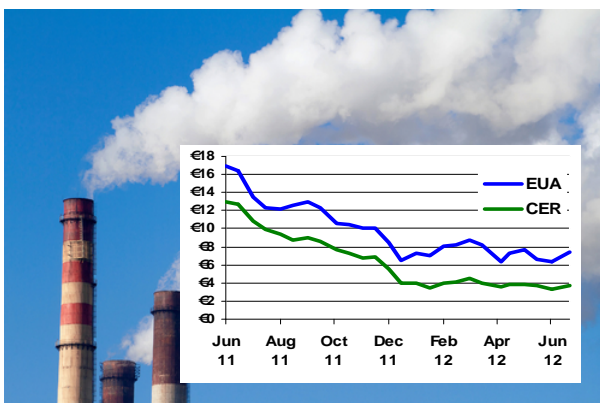
Carbon leakage: Relocation of a business to a jurisdiction with lower emission prices.

Emissions trading in the EU

Decarbonising the economy

The rise in global temperatures by 0.7 °C over the past 100 years is very likely due to rising concentrations of greenhouse gases in the earth's atmosphere. Climate scientists [predict](#) a 4 °C temperature rise by the end of the century if emissions continue to grow.

In order to help limit global warming, the EU has [committed](#) to cutting EU emissions by 80 to 95%. Such a move towards a low-carbon¹ economy [requires significant investments](#) in infrastructure for energy, industry and transport. Since much



Price of EU allowances and UN emission credits.
(source: [ICE Futures Europe](#))

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industrial infrastructure, such as power plants, has a lifetime of many decades, investment decisions taken today have a lasting impact.

The EU and several other regions² have chosen emissions trading as a market-based instrument to drive low-carbon investments in the most cost-effective way.

The European Emissions Trading System

The European Emissions Trading System³ (ETS), introduced in 2005, is a cap and trade scheme, in which there is a fixed annual number of emission allowances (the cap), which can be traded among GHG emitters. The cap limits total GHG emissions for industrial installations which are subject to the ETS. In order to achieve, by 2020, a 20% emissions reduction compared to 1990 levels, the cap is lowered by 1.74 percentage points per year, as laid down in the ETS Directive.

One EU allowance (EUA) gives its owner the right to emit one tonne of CO₂e. Member States give away free allowances to installations under national allocation plans (NAP). In addition, a fixed number of allowances are sold in regular auctions. At the end of each year, each installation must report its emissions and surrender the corresponding number of EUAs or equivalent [international emissions credits](#).⁴ Any unused allowances remain valid and can be used in subsequent years.

The system encourages companies to invest in emissions-reducing technology if the cost of reducing emissions is lower than the market price of emission allowances. They can then sell their unneeded allowances in the market. If companies find that the cost of reducing emissions is higher than the carbon price, they can buy allowances to

cover their emissions. Rational economic actors will thus find the lowest-cost ways to reduce overall emissions.

Some changes will come into effect for the third ETS phase (2013-2020), which will cover more emissions. There will be an EU-wide cap, a central registry and a common auctioning platform. As fewer free allowances will be allocated, auctioning will play a larger role. Moreover, the use of international credits will be restricted. The fourth phase starting in 2021 will be subject to the same rules unless the legislation is reformed before then.

State of the carbon market

Key figures

More than 12 000 installations (e.g. power plants, factories) in the EU, Norway and Liechtenstein participate in the ETS.

In 2011, [emissions covered by the ETS](#) were 1.9 billion tonnes, down more than 2% from 2010. These numbers are 118 million under the cap, an indication that too many allowances were given away. 255 million international credits were used, 86% more than in 2010. There were 900 million unused allowances at end 2011.

Development of the carbon price

After having traded at almost €30 in 2008, the EUA price reached an all-time low of €5.99 in April 2012, and trades persistently below €10. The price for international emissions credits is around €4.

A number of factors contribute to an imbalance of supply and demand:

- overly generous national allocations of free allowances
- use of 555 million international emissions reductions credits
- reduced demand for energy, due to the economic crisis
- emissions-reducing effects of other policies, such as efficiency standards

In addition, a relatively mild winter 2011/2012 reduced demand, and the ongoing sale of 300 million allowances by the European Investment Bank⁵ added to the oversupply.

Analysts from [Barclays Capital](#) and [Bloomberg](#) estimate a surplus of over one billion allowances at the end of 2012.

Deutsche Bank [forecasts](#) an oversupply of 1.26 billion allowances by 2020, which would persist into the fourth ETS phase.

A low carbon price makes 'clean' investments unattractive. At current carbon prices, carbon capture and storage (CCS)⁶ projects are not viable without government support.

Assessment of the ETS

Opinions about the success of the ETS are mixed. On the one hand, the ETS has achieved its aim of reducing GHG emissions. On the other hand, it has not achieved its aim of giving a price signal that encourages investment in low carbon technologies.

Analysts see two fundamental problems with the functioning of the ETS: First, the number of allowances obtained for free or through the UN system has been too large for the actual demand. Second, the demand for allowances varies while supply is fixed many years in advance. This makes it impossible for the ETS to react to fluctuations in demand.

Despite these problems, a number of countries and regions are following the European example, establishing their own carbon markets. Some of these markets have mechanisms to match supply to demand and to guarantee a minimum price.

Policy options

Various options have been proposed for reducing the oversupply of allowances, and restoring the carbon price to a level that rewards carbon-reducing investments.

Set-aside of allowances

It is not exactly clear what is meant by 'set-aside'. If it means that auctions are postponed, the carbon price can be stabilised temporarily, but may collapse

when the withheld allowances are released onto the market. A temporary set-aside can thus provide short-term support to the carbon price, but does not solve the underlying problem of oversupply. If the withheld allowances are to be cancelled, changes to the ETS Directive would be needed.

The quantity of allowances set aside will have a great influence on the carbon price. Point Carbon estimates that removing 750 million allowances would increase the carbon price by two or three euros.

Minimum auction price

A minimum auction price would support the price of allowances, and prevent it from dropping much below the minimum price. It would therefore reduce the risk for investors in low-carbon technologies.

However, Jos Delbeke (European Commission) [warned](#) that such a minimum price could be legally interpreted as a carbon tax, which needs unanimity among MS rather than qualified majority.

[Analysts](#) point out that it is hard for a regulator to determine a correct minimum price, and that any

unsold allowances could come back onto the market as additional supply at a time when carbon prices are higher. It would be very difficult for 27 Member States to agree on a minimum price, and there could be a temptation to set a maximum price as well. Connie Hedegaard, the EU's climate action commissioner, [criticised](#) a system with price controls as being politically controlled instead of market-based.

The UK has unilaterally introduced a [price floor](#) for carbon emissions starting with GBP 16 in 2013, and rising to GBP 30 by 2020.

Aviation

Some countries, including China, India, Russia and the US have objected to the inclusion of international flights in the ETS from 2012 onwards. At the currently low carbon prices and with free allowances, emissions trading will have only negligible impact on the price of international flights, but this could change if the carbon price goes up. A global agreement for aviation emissions is being negotiated in the [International Civil Aviation Organisation](#).

Rules for matching supply with demand

A revision of the ETS Directive could include strict rules to adjust the supply of allowances to reductions in demand resulting from complementary emission-reducing policies (e.g. efficiency standards) or economic conditions.

Reduction of the cap

There have been proposals to lower the cap for the third ETS phase (2013-2020) faster than the current 1.74 percentage points per year. However, this would require changes to the ETS Directive, and risks damaging confidence in the carbon market.

[Climate Strategies](#), a think-tank, argues that both set-aside and an increasing minimum auction price are necessary to strengthen the ETS, in the context of agreed targets for 2030.

Agreement on post-2020 targets

Since energy infrastructure investments can be very long-lived, market participants expect some clarity on how the carbon market will develop over the medium and longer term, for example in the form of intermediate emissions targets for 2025 or 2030.

Other options

Economists Stéphane Dion and Éloi Laurent [propose](#) an internationally negotiated carbon-price signal, which would leave individual countries free to implement it as a carbon tax or in a cap-and-trade scheme.

Economist Christian de Perthuis has proposed to establish a [‘carbon central bank’](#) which would regulate the supply of allowances in much the same way that central banks regulate the money supply in economies.

Impact of the carbon price

A higher carbon price will benefit companies that hold unused allowances. Governments would benefit from increased revenues from auctions, provided that a higher price compensates for reduced auction volumes.

A high carbon price (around €20 to €50, according to analysts) in combination with a price floor would encourage low-carbon investments, such as carbon capture and storage (CCS) or renewable energies. A more moderate rise in the carbon price would make it economical to switch power generation from coal to gas, which produces lower carbon emissions.⁷

On the other hand, a high carbon price drives up costs for carbon-intensive industries,⁸ such as the chemical industry, or Poland's power sector which uses coal for 93% of its electricity generation.

State of play

The recent debate about interventions in the ETS has been linked with discussions on the proposed [Energy Efficiency Directive](#) (EED), which aims to reduce demand for energy⁹ and hence for emission allowances. Setting aside of allowances is mentioned in the impact assessment of the EED.

The [opinion of the ENVI committee](#) of 20 December 2011 on the Energy Efficiency Directive asks for 1.4 billion allowances to be set aside. The [position of the ITRE committee](#) of 28 February 2012 calls on the Commission to consider measures to provide incentives for investing in low-carbon technologies, which may include withholding ETS allowances.

The final [compromise between the EP and the Council](#) does not provide for interventions in the ETS, but includes a written statement by the Commission committing to present urgently the first report on the carbon market (originally foreseen for 2013), accompanied by a review of the auction time profile and an examination of options for strengthening the ETS, including the permanent withholding of allowances. The report is expected during summer 2012.

The time profile of auctions can be amended relatively quickly through comitology, leading to a revision of the

[Commission Regulation](#) on the auctioning of allowances.

The temporary withholding of auctions is a short-term measure, which buys some time to find solutions to the longer-term problems of the ETS. As changes to the ETS Directive fall under the ordinary legislative procedure, the EP would have its say.

Regarding longer-term commitments, the Commission has proposed a [low-carbon roadmap](#) which includes targets for emissions reductions (80% by 2050, 60% by 2040, 40% by 2030, 25% by 2020). The document states that a reduction of the cap and set-aside of allowances would be required to achieve these targets. The [EP's resolution of 15 March 2012](#) supports the low-carbon roadmap and calls on the Commission to adopt measures to correct the failings of the ETS.

The [energy roadmap 2050](#), which calls for decarbonisation of the EU's energy sector, is [under discussion](#) in the ITRE committee. Poland opposes both roadmaps while the other 26 Member States support them.

Member States and stakeholders

Member States

Poland, whose energy sector is highly dependent on coal, opposes interventions in the carbon market. Poland fears that a higher carbon price could undermine its competitiveness, and that a switch from domestic coal to imported gas could threaten its energy security. Poland has opposed any move to set EU-wide carbon targets for after 2020. However, Poland is in favour of a strong Energy Efficiency Directive.¹⁰

Business

[BusinessEurope](#), representing European employers, opposes interventions in the carbon market, and argues that free allocation of allowances and support for research and innovation are necessary to prevent carbon leakage. [CEFIC](#), representing the chemical industry, opposes

interventions in the ETS, citing a loss of competitiveness and the risk of carbon leakage.

Other industry groups are more sympathetic to interventions. The [EU Corporate Leaders Group on Climate Change](#) considers that a 'healthy' carbon price would be closer to €30, and supports a reserve auction price for phase 4. [Shell](#) supports a short-term set-aside of more than one billion allowances, as well as a European carbon floor price, and asks for clarity on emissions targets for 2030.

The [International Emissions Trading Association](#) warns that any short-term set-aside should be an exceptional measure and favours a reform of the ETS which aligns the cap trajectory with emissions targets for 2050, and a revised cap-setting process which allows for more flexibility in case of changed economic conditions.

[Deutsche Bank](#) considers set-aside necessary, but not sufficient, and calls for structural changes to the ETS, such as a lower emissions target for 2020 or a minimum auction price.

NGOs

A [report](#) produced by Öko-Institut for Greenpeace and WWF recommends setting aside allowances (which are to be cancelled or held back for a decade or more), increasing the annual reduction of the cap to 2.6 or even 3.9 percentage points, and introducing strict rules for lowering the cap to account for the effects of complementary policies and economic conditions.

[Sandbag](#), a UK-based not-for-profit organisation, proposes withdrawing 3.1 billion allowances, a permanent mechanism to correct for drops in demand and a phase-4 cap compatible with the low-carbon roadmap. Sandbag is critical of price controls and reserve price auctions.

Main references

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[Banking of Surplus Emissions Allowances: Does the Volume Matter?](#) / Karsten Neuhoff et al., DIW Berlin, March 2012

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Endnotes

¹ The word 'carbon' is used here informally to mean all greenhouse gases, of which CO₂ is the most important. 'Carbon price' is used to refer to the price of emission allowances.

² [New Zealand](#) has had a carbon market since 2008 and [California](#) since 2012. Carbon markets will be introduced in [Quebec](#) (2013), [South Korea](#) (2015), and [Australia](#) (July 2015) and as a [pilot project in some Chinese regions](#) (2013). On the international scene, the [Durban Platform for Enhanced Action](#) is working towards a globally binding agreement by 2020. Companies such as Shell and Microsoft use internal carbon prices to promote low-carbon business decisions..

³ [Directive 2003/87/EC](#) of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community; [Directive 2009/29/EC](#) of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.

⁴ From the environmental perspective, it does not matter whether emissions are reduced in Europe or elsewhere. Hence it makes sense to reduce emissions wherever it can be done at the lowest cost. International emission credits arising from projects in other regions can therefore be used, within certain limits, to meet European obligations. Operators may use certified emission reductions (CERs) since 2005 and emission reduction units (ERUs) since 2008., as laid down in the [Linking Directive](#).

⁵ The European Commission has [mandated](#) the European Investment Bank to sell 300 million allowances from the New Entrants Reserve. The revenue will be used to fund CCS demonstration projects.

⁶ Storage of CO₂ in underground reservoirs, for example depleted gas wells.

⁷ The carbon price at which a switch of the energy source becomes economical depends on the current coal and gas prices in Europe and on exchange rates. Currently, it is in the range of €24 to €31, according to the [Tendances Carbone](#) newsletter. However, there are [doubts](#) whether substitution of coal by gas can yield substantial climate benefits.

⁸ In order to prevent energy-intensive installations from relocating outside the EU (carbon leakage), state aid for large electricity consumers is permitted.

⁹ The directive aims at improving energy efficiency by 20% by 2020 (from 1990 levels) and requires energy companies to achieve savings of 1.5% of energy sales by volume each year from 2014 to 2020.

¹⁰ Poland wants equal treatment / Marcin Korolec, [Carbon Trading Magazine, June 2012](#), p. 14-15.